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09/238,368	01/27/1999	IKUO SUNAGA	MM-99111	6414

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ART UNIT	PAPER NUMBER
2665	

DATE MAILED: 12/30/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _25 October 2002_ .

2a) ☒ This action is **FINAL.**   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-14_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-14_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

        1. ☒ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

2.   Claims 1-4, 6-9 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Nardin (USP 5317562) in view of Lyons (USP 6075798).

Nardin discloses a method for transferring speech and voice band signals and ISDN

(Integrated Services Digital Network) digital signals between an ATM (Asynchronous Transfer

Mode) network and an STM (Synchronous Transfer Mode) network, the method comprising the

steps of (a) obtaining a silence information by detecting silence sections in input signals entered

from the STM network (Fig 2, Ref 156 is VAD for detecting a silence period from a TDM

network which read on STM network and includes ISDN such as basic rate "B+D" or primary

rate "2B+D", col. 4, lines 60 to col. 5, lines 10) (b) obtaining a signal type information for each

input signal by judging whether each input signal is a speech and voice band signal or an ISDN

digital signal and further judging a signal type of each input signal that is judged as the speech

and voice band signal (Fig 2, Ref 182 and CIP for determining if the type of signal for such as

voice or data, if it is a voice signal the input signal is judged to determine if the input signal

needs to compress or not; if the voice signal needs to be compressed; the voice signal will be

compressed); (c) dynamically changing a compression scheme of each input signal into a most

appropriate compression scheme according to the silence information obtained at the step (a)

and the signal type information obtained at the step (b), and compressing each input signal using

the most appropriate compression scheme by length of packet (Fig 2, 158, 156 used for applying

a compressing schemes according to the type of signal, See Fig 12 and col. 8, lines 43-62) and (f)

receiving input ATM cells from the ATM network and disassembling the input ATM cells into

received packets; (g) disassembling the received packets obtained at the step (f) into received

signals; (h) judging a signal compression scheme of each received signal obtained at the step (g);

(l) expanding each received signal using the signal compression scheme Judged at the step (h);

and (j) reproducing silence sections in signals expanded at the step (1) so as to generate STM

signals, and transferring the STM signals to the STM network (Fig 2, 150 determines the type of

compression for decompression signal and reproducing the silence information for transmitting

to telephone network, an ATM interface for receiving/transmitting to ATM network by assembly

the payload of ATM cell or disassembly the information signal into ATM cell which has a

priority to indicate a type of information in the payload, Fig 2, 150 and col. 4, lines 35-45);

However, Nardin fails to disclose the steps (d) assembling variable length packets each having a

length shorter than that of an ATM cell from signals compressed at the step (c) using the silence

information obtained at the step (a) and the signal type information obtained at the step (b); (e)

assembling ATM cells by multiplexing a plurality of the variable length packets assembled at the

step (d), and transferring the ATM cells to the ATM network. However, in the same field of

endeavor, Lyons discloses the steps (d) assembling variable length packets each having a length

shorter than that of an ATM cell from signals compressed at the step (c) using the silence

information obtained at the step (a) and the signal type information obtained at the step (b); (e)

assembling ATM cells by multiplexing a plurality of the variable length packets assembled at the

step (d), and transferring the ATM cells to the ATM network; (Fig 1, 4 and 8-9, the information

signals are assembled into a plurality of variable length packets having a length shorter than

ATM cell, then multiplexing a plurality of AAL 2 packet into an ATM cell for transmitting to

ATM network; See col. 2, lines 10-53, col. 4, lines 14-54 and col. 5, lines 22 to col. 8, lines 47).

Since, Nardin suggests the user of ATM layer. Therefore, it would have been obvious to

one of ordinary skill in the art at the time of the invention was made to apply AAL 2 layer which

assembling a plurality of variable length packet and multiplexing them into ATM cell as

disclosed by Lyons into Nardin's method and apparatus. The motivation would have been to

provide an efficient way to transport a plurality of variable length small packets in the ATM

network.

3.   Claims 5, 10 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Nardin and Lyons as applied to claims 1, 7 and 11 above, and further in view of Lyons (USP

6282196).

Nardin does not disclose the claimed invention. However, in the same field of endeavor,

Lyons ' 196 discloses an ATM cell transmitting side assembles the variable length packets only

from non-silence sections by eliminating silence sections indicated by the silence Information

from signals compressed at the step (c), while using a sequence counter with a value ranging

from 0 to 7 in headers of the variable length packets such that a value 0 is used for a first packet

of each non-silence section, values 1 to 7 are used repeatedly for subsequent packets of each

non-silence section, and a sequence counter is reset when a silence section occurs; the step (f) at

an ATM cell receiving side receives the input ATM cells containing the received packets that are

assembled only from non-silence sections by eliminating silence sections, and the step (g) detects

a sequence counter value in a header of each received packet such that a received packet with the

sequence counter value 0 is detected as a first packet of each non-silence section and received

packets with the sequence counter values 1 to 7 are detected as subsequent packets of each

non-silence section, so as to detect the first packet of each non-silence section as well as an

occurrence of a loss of packets and a number of lost packets for each non-silence section when

there is a loss of any consecutive packets of each non-silence section between a transmitting side

and a receiving side; and when the received packet with the sequence counter value 0 is detected,

the step (1) resets an algorithm of the signal compression scheme by taking the received packet

with the sequence counter value 0 as the first packet of the non-silence section, so as to enable

improvement of a quality of reproduced speech and voice band signals, and when a loss of

packet is detected, the step (1) makes a judgment as to whether a lost packet is the first packet

of the non-silence section or one of the subsequent packets of the non-silence section, and

applies a most appropriate loss compensation scheme according to a result of the judgment (Col.

6, lines 24-30 discloses each AAL2 packet assigned a sequence number such as 0 to 7 wherein 0

is a beginning of voice packet and the counter will be reset when a silent period is detected, col.

9, lines 61 to col. 10, lines 22 and Fig 5 wherein the sequence number is used to detect a loss

packet and apply a compensation scheme for loss packet and in the header of AAL2 packet has a

field to allow the receiving interface to determine a compression type, See Fig 3).

Since, Nardin suggests the user of ATM layer. Therefore, it would have been obvious to

one of ordinary skill in the art at the time of the invention was made to apply AAL2 packet

sequence number for each AAL2 packet and using this sequence to determine a loss packet and

coding type field to determine a compression schemes as disclosed by Lyons into Nardin's and

Lyons' 798 method and apparatus. The motivation would have been to provide an efficient way

to transport a plurality of variable length small packets in the ATM network.

Response to Arguments

4.   Applicant's arguments filed 10/24/2002 have been fully considered but they are not

persuasive.

In response to pages 5-6, the applicant states that Nardin and Lyons fail to disclose a

method and apparatus for transmitting a voice or data from STM network to ATM network. In

reply, Nardin discloses a method and apparatus for receiving an input signal from time division

multiplexing port (See Fig 2-3, Ref 150) which is T1 line "read on STM network" and Judge if

the input signal is speech and voice signal or data signal; if it is a voice signal, the system will

judge if the voice signal need to be compressed or not; if it needs to be compressed, the voice

signal will be compressed by using G.721 standard (See col. 4, lines 21 to col. 5, lines 10). The

ATM interface for receiving voice signal or data signal and converting them into cell (See Fig 2,

Ref 154 used for converting incoming TDM stream into cells for transmitting via ATM

network). Lyons discloses an ATM interface having AAL2 layer for segmenting the received

speech and voice signal or data signal from circuit switches or T1 interface "STM network" into

a variable length packet for multiplexing into ATM cell and determining if the input signal is

speech and voice signal or data signal before compressing and segmenting into mini packets for

multiplexing into ATM cells (See Fig 1 and 4; col. 2, lines 49-53, col. 5, lines 22 to col. 7, lines 4

and col. 8, lines 22-47).

In response to applicant's argument that the examiner's conclusion of obviousness is

based upon improper hindsight reasoning, it must be recognized that any judgment on

obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so

long as it takes into account only knowledge which was within the level of ordinary skill at the

time the claimed invention was made, and does not include knowledge gleaned only from the

applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392,

170 USPQ 209 (CCPA 1971).

In response to applicant's argument that there is no suggestion to combine the references,

the examiner recognizes that obviousness can only be established by combining or modifying the

teachings of the prior art to produce the claimed invention where there is some teaching,

suggestion, or motivation to do so found either in the references themselves or in the knowledge

generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5

USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir.

1992). In this case, Nardin suggests a method and apparatus for transmitting voice or data signal

and suppressing silent intervals by inhibiting of transmission of silent cell (See col. 4, lines 60 to

col. 5, lines 10). Lyons suggests the use of ALL2 layer of ATM adapter for utilizing the

bandwidth for transmitting voice and data signal by segmenting it into mini packet and

multiplexing them into ATM cells (See Fig 1 and 4; col. 2, lines 49-53, col. 3, lines 10-16, col. 5,

lines 22 to col. 7, lines 4 and col. 8, lines 22-47). Therefore, it would have been obvious to one

of ordinary skill art to apply an AAL-2 layer which is used transmitted compressed voice signal

as disclosed by Lyons's method and apparatus into Nardin's method and apparatus for

converting a compressed voice signal into cells for transmitting via ATM network. The

motivation would have been to provide efficient way to transport of small packets over ATM

network in such a way that allows very small transfer delay across the ATM network and

bandwidth efficiency.

The teaching of Nardin and Lyons perform the claimed invention. Therefore, the

rejection maintains.

Conclusion

5.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Steven HD Nguyen whose telephone number is (703) 308-8848.

The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Huy D Vu can be reached on (703) 308-6602. The fax phone numbers for the

organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

Steven HD Nguyen
Primary Examiner
Art Unit 2665
December 28, 2002